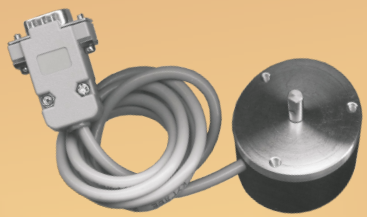
"ESA Control" Ltd



INCREMENTAL

ROTARY ENCODER

Series E50-02

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E-mail: office@esa-control.com
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Incremental Rotary Encoder E50-02A

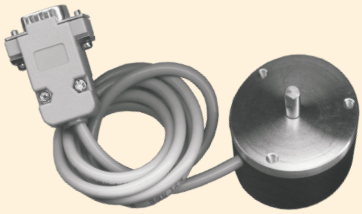


fig.1

Application and operating principle

The incremental rotary encoder series E50-02A serves to convert the angular displacements into electrical impulses. There is three output signals: A, B and C. The output electrical signals A and B are dephased and can be used to determine the direction of rotation of the axes. The output electrical signal C is short single electrical impulse for one complete turning of axle of the device of 360º. The encoder is used widely into practice as a device for automatization of different production processes.

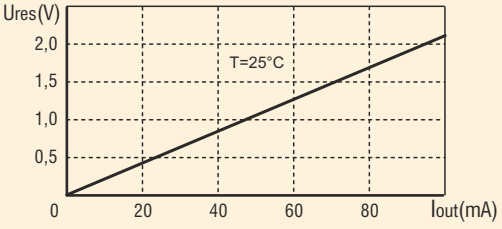
Technical parameters

Pulses per revolution, *n*	30, 60, 90
Outputs	A, B, C (res, 5K to +V)
Outputs A and B shifted on phases	30º...90º electrical
Supply voltage, *Us*	5 VDC ±10%
Residual voltage, *Ures*	0,45V (I=20mA)
Load current (max), *Iout*	100mA
Current consumption, *Is*	25mA
Operating frequency (max), *fo*	10kHz
Fall time / Rise time, *tf* / *tr*	0,1μs / 0,2μs
Operating temperature range, *Tamb*	-10º…+50ºC
Degree of protection	IP41
Permissible level of moisture	85% (at 25ºC)
Max. shaft loading, radial / thrust	10N / 5N
Joining cable	4x0,25mm^2 + shield; L=1m
Joining connector	“Canon 9" (male)
Overall size	Ø50x45

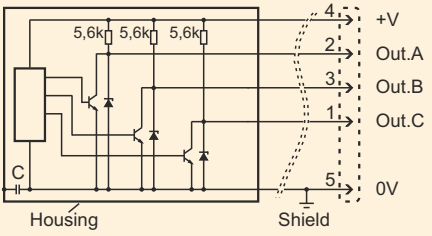
Type parameters

Type	Pulses per revolution (n)	Supply voltage (Us)
E50-02A-30	30	5VDC ±10%
E50-02A-60	60	5VDC ±10%
E50-02A-90	90	5VDC ±10%

Output characteristic (log.”0”)



Scheme of connection



Incremental Rotary Encoder E50-02B

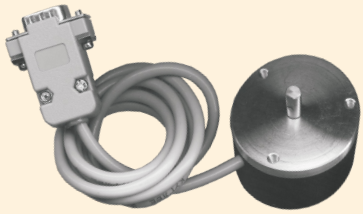


fig.1

Application and operating principle

The incremental rotary encoder series E50-02B serves to convert the angular displacements into electrical impulses. There is three output signals: A, B and C. The output electrical signals A and B are dephased and can be used to determine the direction of rotation of the axes. The output electrical signal C is short single electrical impulse for one complete turning of axle of the device of 360º. The encoder is used widely into practice as a device for automatization of different production processes.

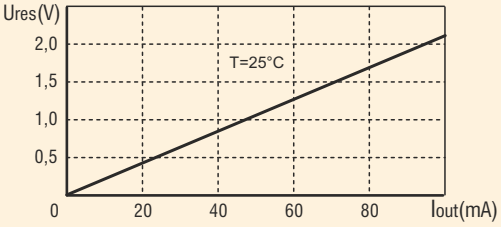
Technical parameters

Pulses per revolution, *n*	30, 60, 90
Outputs	A, B, C (res, 5K to +V)
Outputs A and B shifted on phases	30º...90º electrical
Supply voltage, *Us*	8 ... 30 VDC (Puls. ±10%)
Residual voltage, *Ures*	0,45V (I=20mA)
Load current (max), *Iout*	100mA
Current consumption, *Is*	25mA
Operating frequency (max), *fo*	10kHz
Fall time / Rise time, *tf* / *tr*	0,1μs / 0,2μs
Operating temperature range, *Tamb*	-10º…+50ºC
Degree of protection	IP41
Permissible level of moisture	85% (at 25ºC)
Max. shaft loading, radial / thrust	10N / 5N
Joining cable	4x0,25mm^2 + shield; L=1m
Joining connector	“Canon 9" (male)
Overall size	Ø50x45

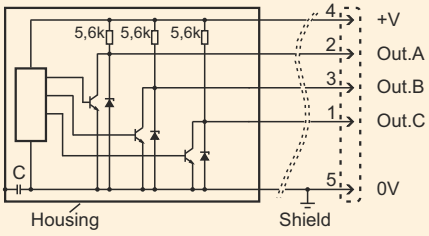
Type parameters

Type	Pulses per revolution (n)	Supply voltage (Us)
E50-02B-30	30	8 ... 30 VDC
E50-02B-60	60	8 ... 30 VDC
E50-02B-90	90	8 ... 30 VDC

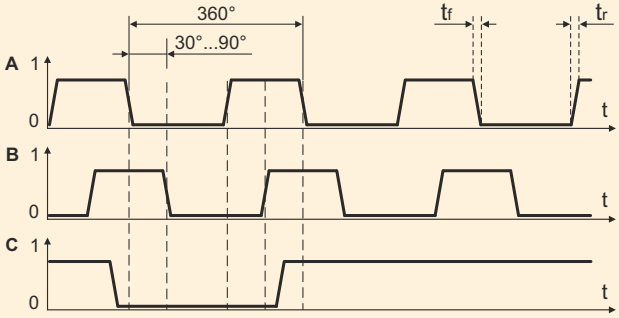
Output characteristic (log.”0”)



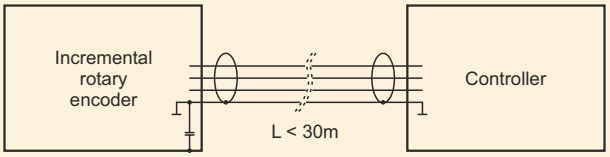
Scheme of connection

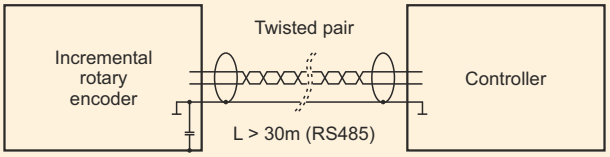


Time diagram of output signals

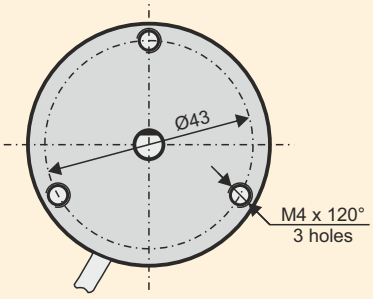


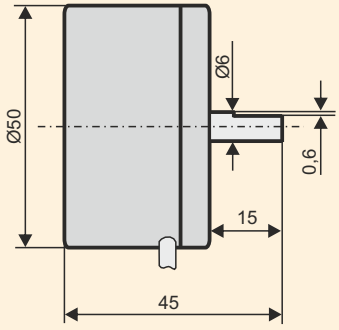
Connection with controller



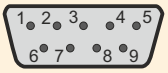


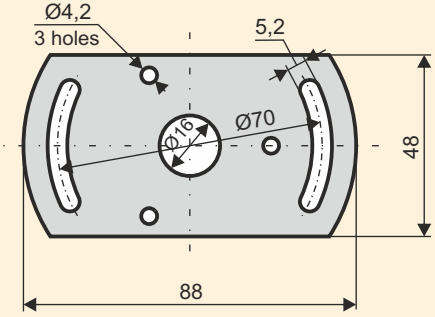
Overall sizes





Connection “Canon 9" (male)




Ø4,2
3 holes
5,2
Ø70
Ø16
48
88